

# CRATER EDGE (PWS # 6120004) SOURCE WATER ASSESSMENT FINAL REPORT

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June 28, 2001



## State of Idaho Department of Environmental Quality

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## Executive Summary

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality (DEQ) is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000-foot radius of your drinking water source, sensitivity factors associated with the source, and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Public Water System (PWS) #6120004* describes the public drinking water system, the associated potential contaminant sources located within a 1,000-foot boundary around the drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and is not intended to undermine the confidence in your water system.**

The Crater Edge drinking water system consists of one well, located outside the one hundred-year flood plain. The system is rated moderately susceptible to potential contaminants. The final moderate rating falls in all susceptibility category scores. This is due to several factors within the surrounding area that could be potential contaminant sources to your drinking water system. The following considerations have been applied in determining the final well rating: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources.

Based on Butte County's geology, your well is located in a well-drained area. The soil composition is such that it does not significantly reduce the downward movement of contaminants. Therefore, stormwater and septic systems could be potential contaminant sources. Butte County is also classified as a moderate farm-chemical use area, but your well water is not affected by the farm chemical use predominant in Butte County. The close proximity of surface water, lack of well construction information, and well-drained soils all contribute to the moderate microbial rating. The location of a wastewater land application site is a potential contaminant in the form of nitrates, metals, salts, bacteria, and viruses. A gas station is a potential contaminant of volatile and synthetic organic compounds such as petroleum fuels, oil, and solvents.

A copy of the susceptibility analysis worksheet for your system along with a map showing any potential contaminant sources is included with this summary. The vicinity of the well is predominantly irrigated and non-irrigated agriculture lands, with few potential contaminant sources identified within the delineated capture zone at this time.

A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary. Information regarding the potential contaminants within the 1000-foot boundary have been summarized and included in Table 1 below.

**Table 1. Crater Edge, Potential Contaminant Inventory**

SITE #	Source Description <sup>1</sup>	Source of Information	Potential Contaminants <sup>2</sup>
1	Wastewater land application site	Database Search	IOC, Bacteria
1	Gas Station	Database Search	VOCs, SOC

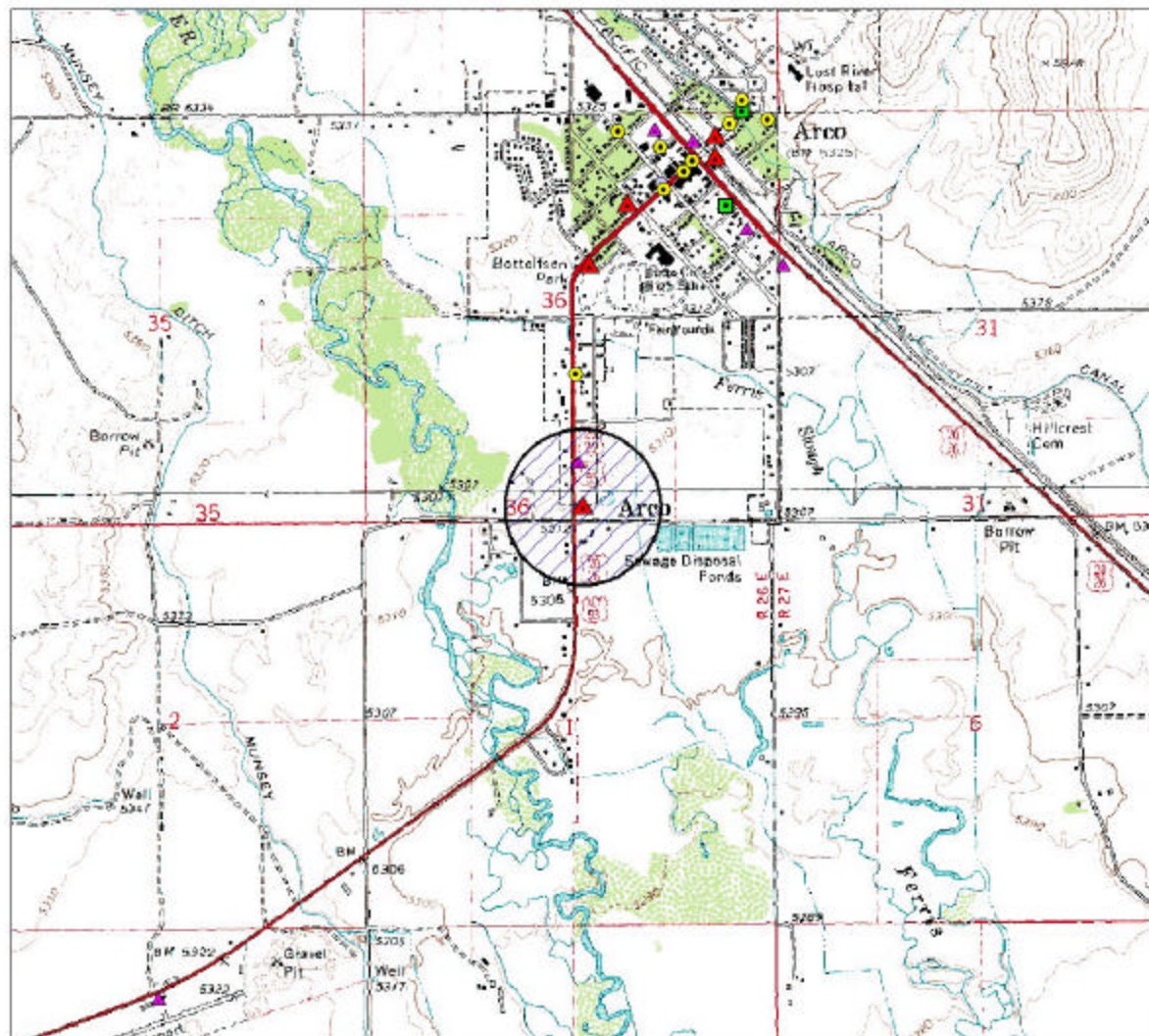
<sup>2</sup>IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For Crater Edge, source water protection activities should focus on implementation of practices aimed at protecting the well from related contaminants that may leach within the designated source water area. You may want to establish a dialog with the following state and local agencies related possible leachable contaminants that may affect the well: Idaho Department of Environmental Quality, Idaho Department of Water Resources, U.S. Geological Survey, and the Environmental Protection Agency. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing source water protection strategies, please contact the Idaho Falls Regional (DEQ) Office at (208) 528-2650.

Figure 2. Crater Edge Delineation Map and Potential Contaminant Source Locations



0 0.2 0.4 0.6 0.8 1 Miles



**PWS# 6120004**  
**Well**

## POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

**AST (Aboveground Storage Tanks)** – Sites with aboveground storage tanks.

**Business Mailing List** – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

**CERCLIS** – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

**Cyanide Site** – DEQ permitted and known historical sites/facilities using cyanide.

**Dairy** – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

**Deep Injection Well** – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

**Enhanced Inventory** – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (IDEQ) during the primary contaminant inventory.

**Floodplain** – This is a coverage of the 100-year floodplains.

**Group 1 Sites** – These are sites that show elevated levels of contaminants and are not within the priority one areas.

**Inorganic Priority Area** – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

**Landfill** – Areas of open and closed municipal and non-municipal landfills.

**LUST (Leaking Underground Storage Tank)** – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

**Mines and Quarries** – Mines and quarries permitted through the Idaho Department of Lands.)

**Nitrate Priority Area** – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

**NPDES (National Pollutant Discharge Elimination System)** – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

**Organic Priority Areas** – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

**Recharge Point** – This includes active, proposed, and possible recharge sites on the Snake River Plain.

**RICRIS** – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

**SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities)** – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

**Toxic Release Inventory (TRI)** – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

**UST (Underground Storage Tank)** – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

**Wastewater Land Applications Sites** – These are areas where the land application of municipal or industrial wastewater is permitted by IDEQ.

**Wellheads** – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

**NOTE:** Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.273)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5    Low Susceptibility

6 - 12   Moderate Susceptibility

≥ 13    High Susceptibility

## 1. System Construction

SCORE

Drill Date	Unknown	
Driller Log Available	NO	
Sanitary Survey (if yes, indicate date of last survey)	YES	0
Well meets IDWR construction standards	NO	1
Wellhead and surface seal maintained	YES	0
Casing and annular seal extend to low permeability unit	NO	2
Highest production 100 feet below static water level	YES	0
Well located outside the 100 year flood plain	YES	0

Total System Construction Score 3

## 2. Hydrologic Sensitivity

Soils are poorly to moderately drained	YES	0
Vadose zone composed of gravel, fractured rock or unknown	YES	1
Depth to first water > 300 feet	NO	1
Aquitard present with > 50 feet cumulative thickness	NO	2

Total Hydrologic Score 4

## 3. Potential Contaminant / Land Use - ZONE 1A

IOC Score	VOC Score	SOC Score	Microbial Score
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Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		2	2	2	2

## Potential Contaminant / Land Use - ZONE 1B

Contaminant sources present (Number of Sources)	YES	2	1	1	1
(Score = # Sources X 2 ) 8 Points Maximum		4	2	2	2
Sources of Class II or III leacheable contaminants or	YES	1	0	0	
4 Points Maximum		1	0	0	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B Greater Than 50% Irrigated Agricultural Land		4	4	4	4

Total Potential Contaminant Source / Land Use Score - Zone 1B 9 6 6 6

Cumulative Potential Contaminant / Land Use Score 11 8 8 8

## 4. Final Susceptibility Source Score

10 9 9 10

## 5. Final Well Ranking

Moderate Moderate Moderate Moderate